

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 03NPCT004	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/JP 03/12389	International filing date (day/month/year) 29/09/2003	(Earliest) Priority Date (day/month/year) 07/08/2003
Applicant NEC ELECTRONICS CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP 03/12389

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A pair of pads (1) are formed on an insulating layer formed on a top surface of a substrate, and a plurality of through-holes (2) are arranged at equal intervals between the pads (1). The adjoining through holes (2) are connected alternately by interconnect lines (4) exposed on the insulating layer or lower interconnect lines (3) buried in the insulating layer, thus constituting a chain pattern. A DC power supply (12) is connected between the pair of pads (1), and a constant current  $I_0$  is supplied to a chain pattern of the through holes (2). Two probes (10) move on a chip surface along the chain pattern of the through holes (2) while keeping a given spacing  $d$ . Accordingly, the probes (10) sequentially scan the upper interconnect lines (4) exposed through the chip surface of the chain pattern of the through-holes (2).

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 03/12389

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N21/956 G12B21/02 G12B21/22

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G12B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 11, 6 November 2002 (2002-11-06) -& JP 2002 214112 A (FUJI XEROX CO LTD), 31 July 2002 (2002-07-31) cited in the application abstract; figure 1	1-7
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) -& JP 2002 076076 A (SONY CORP), 15 March 2002 (2002-03-15) abstract; figures 1-6 ----- -/--	1-7

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

20 December 2004

Date of mailing of the international search report

28/12/2004

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 03/12389

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 198 300 B1 (DOEZEMA LAMBERT A ET AL) 6 March 2001 (2001-03-06) figures 3,6,7 column 8, line 39 - column 12, line 34 -----	4,6
A	EP 0 309 236 A (CANON KK) 29 March 1989 (1989-03-29) figure 21 page 19, line 11 - line 36 -----	1-7

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 03/12389

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2002214112	A	31-07-2002	NONE	
JP 2002076076	A	15-03-2002	NONE	
US 6198300	B1	06-03-2001	US 6139759 A	31-10-2000
EP 0309236	A	29-03-1989	JP 2069618 A	08-03-1990
			JP 2071439 A	12-03-1990
			CA 1312952 C	19-01-1993
			DE 3850544 D1	11-08-1994
			DE 3850544 T2	24-11-1994
			DE 3856336 D1	01-07-1999
			DE 3856336 T2	27-01-2000
			EP 0309236 A2	29-03-1989
			EP 0566214 A2	20-10-1993
			US 5482002 A	09-01-1996
			US 5994698 A	30-11-1999
			US 5072116 A	10-12-1991
			US 5255258 A	19-10-1993
			JP 2176405 A	09-07-1990
			JP 2553661 B2	13-11-1996

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